



# Color Camera

GP-KR521

## Operating Instructions

Before attempting to connect or operate this product, please read these instructions completely.

N0199-0 YWV8QA5161AN Printed in Japan

### Safety instructions

Observe the following instructions for your own safety and that of the equipment. To reduce the danger of fire or electric shock:

- Do not use an AC adapter other than the provided model A10625.
- Do not expose the equipment to rain or moisture.
- Do not place your equipment near a bath tub, washbasin or other source of water.

### FCC statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

### Radio & TV interference

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, use only shielded interference cables when connecting video camera to computer's video card input. Also any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

### For your records

The serial number of this equipment may be found on the bottom. You should note the serial number in the space provided below and retain this book as a permanent record of your purchase to aid identification in the event of theft.

MODEL No. \_\_\_\_\_ SERIAL No. \_\_\_\_\_

## Introduction

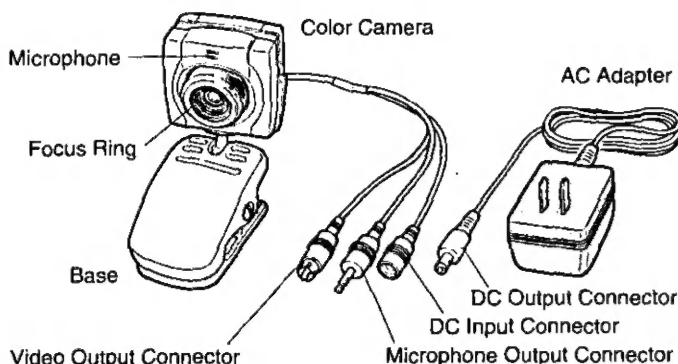
- Thank you for purchasing the Color Camera. The Color Camera is an easy to use Analog Video Camera device that is capable of capturing either full motion or still images to your PC. The device outputs images at the rate of 30 FPS (frames per second) in a standard NTSC composite video format.
- The camera also has a built in microphone for audio. This microphone can be connected to the input of a computer's sound card to capture audio.
- Connecting the camera to a personal computer will allow you to transmit video and audio signals for use in video conferences or publishing of documents.
- The compact size of the Color Camera makes it ideal for use on the desktop for a wide variety of computer based applications. Connect this camera to your PC and send Video e-mail, create exciting presentations by adding a live demonstration or take still pictures right from your desktop.

## What's Included

### Important Notice:

Your personal computer must have a composite Video input port to use this device. You may also connect the camera's microphone to the mic input on your computer's sound card device.

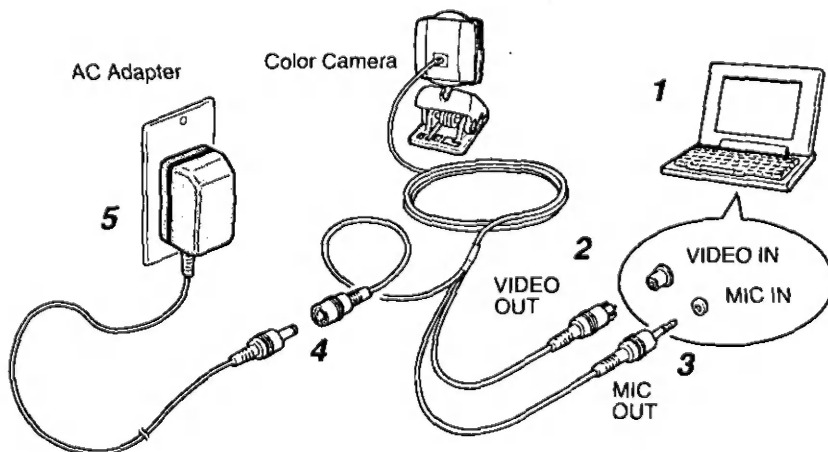
- Confirm that you have all the components shown below.



## Connecting the camera

The integrated cable attached to the camera has three connectors. One is for power, another for video output, and the other for microphone output. Follow the instructions below to connect it to your system.

1. Turn off your computer. (We recommend you also keep it disconnected from the AC power source during this procedure.)
2. Attach the video output of the camera to the video input (composite video) on your computer's video capture card/capture device.
3. Connect the microphone output connector to the microphone input on your computer's soundcard.
4. Connect the DC plug of the AC adapter with the Power In socket of the integrated cable.
5. Plug the AC adapter into a standard electrical outlet or power strip.



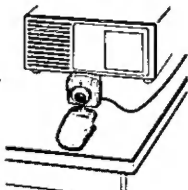
## Positioning the camera

### Note:

- To protect the camera from possible damage you may want to secure it with double sided adhesive tape (not included) once the desired location is determined.

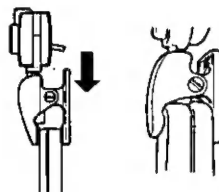
- The Color Camera can be placed on the edge of the computer or on the desktop.

#### ● Place on the desktop.



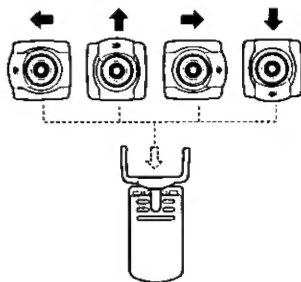
#### ● Clip onto the edge

- Attach the camera by clipping it onto the edge of your computer.
- Push the clip to the end while opening it to secure the camera.



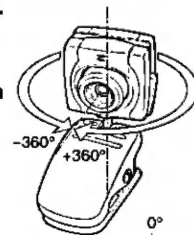
- The Color Camera is mounted on a handy tilt and swivel base. Adjust the camera position shown below for your requirement.

#### ● Camera rotation



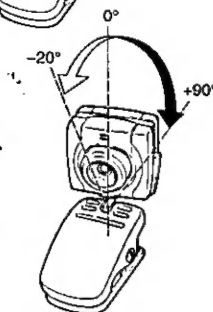
- Can be mounted in any of 4 directions at 90-degree intervals.
- The side where the microphone is located is always the upper side of the picture on the monitor screen.

#### ● Horizontal turn (Pan)



#### ● Longitudinal turn (Tilt)

- Pan/tilt angle may be narrower than specified depending on the object that may limit the turn of the camera.



- The Color Camera is equipped with an automatic exposure circuit. The PC Color Camera will adjust to light levels between 10 lux and 10 000 lux. You may notice optimum performance in conditions where the ambient light level is between 500 and 1 000 lux. In low light level conditions you may notice color fidelity may suffer. Add additional light to improve picture quality if desired.

## Operating the camera

### Note:

- Avoid pointing the Color Camera directly into light sources such as lamps, bright windows, etc. Any visual target in front of the light source will become "back lit", and will likely appear as a shadow, see the example diagrams on the right.

Before operating your camera it will be necessary to prepare your computer to capture or preview images on the computers monitor.

- Point the camera at the subject.

- Adjust the position and size of the subject.

While watching the preview window on the monitor, turn the camera slowly up and down, left and right so the desired portion of the subject lies in the center of the monitor.

- Adjust the Focus

While observing the preview monitor, turn the focus ring on the camera for the clearest possible image. The minimum focus distance is 100 mm (about 3.9 inches).

Image with normal ambient lighting

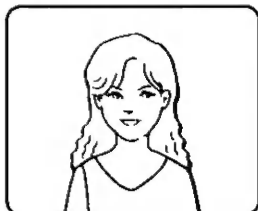
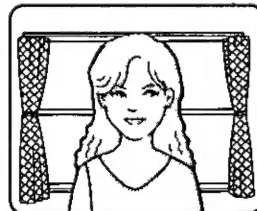



Image spoiled by backlight



## Lens Maintenance

Use an air blower to blow the dust on the lens.  
If necessary, clean the lens face using a cotton tipped applicator and ethanol.

## Specifications

<b>Lens</b>	Focal length: 4.6 mm F-Stop: F = 2.8 Focus: Manual 100 mm (3-15/16 inches) to infinity View angle: Horizontal: 45 degrees Vertical: 34 degrees
<b>Pick-up system</b>	Image device: 1/4-inch CCD Pixels(approx.): Effective: 250,000(512H x 492V) Total: 270,000(542H x 496V)
<b>Sensitivity</b>	Recommended illumination: 10 lx to 10 000 lx
<b>Video output signals</b>	Standard: NTSC Impedance: 75 $\Omega$ Level: 1.0 V[p-p] Signal to noise ratio: 46 dB (AGC Off equivalent) Horizontal resolution: 330 television lines (center portion) White balance: Automatic
<b>Microphone</b>	Impedance: Low impedance Directivity: Omni-directional Operation voltage: DC 2V typical, DC 10V maximum
<b>Power required</b>	Voltage: DC 6V Current: 0.16 A
<b>Cable &amp; Connectors</b>	DC input: 4.4 mm diameter  Video output connector: Standard RCA type pin plug Microphone output connector: 3.5 mm male mini plug Cable Harness length: 1.8 m (5 feet 11 inches) approximate
<b>General</b>	Ambient temperature: 5°C to 35°C (41°F to 95°F) Ambient humidity: 40% to 90% Weight: 60 g (0.13 lbs) Size: 44 (W) x 103 (H) x 44 (D) mm [1-3/4 (W) x 4-1/16 (H) x 1-3/4 (D) inches]
<b>AC adapter</b>	Input voltage: AC 120 V Output voltage: DC 6V Consumption: 5 W (typical)  Use only AC Adapter model A10625.